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The Disposal Impoundment

As seen in a 1973 map by the U.S.A.C.E. (St. Louis District), the area of the disposal impoundment is approximately 20,000 square feet. The wastes dumped into it and the later leaching by rain water are then sources of potential ground water pollution here.

Mr. Waggoner stated in 1971 that he used approximately 100 gallons of water per day to wash out his trucks that carried industrial waste. This is most likely a conservative estimate. He operated in this manner from August, 1971 until sometime in 1974, when he sold the company to Ruan Trucking Company, who continued the same practice until 1978. If it's assumed that they "washed their trucks out" 5 days a week during this period of time, the following estimate as to the amount of disposal can be made:

$(100 \text{ gal/day}) \times (6.3 \text{ years}) \times (52 \text{ weeks/year}) \times (5 \text{ days/week}) = 163,800 \text{ gallons}$

It is felt that this excavation caused large amounts of ground water pollution, as seen from the above value, and from the drilling of monitor well G109 (Figure 4). While drilling it, the driller and his assistant operating the rig became nauseous from the fumes. These conditions were due to its location in a small strip of virgin soil between the creek and the disposal impoundment. Since the soils above the water table are relatively clean until encountering the ground water, and no mounding is shown at this well location, it must be assumed that the disposed liquids migrated vertically from the impoundment. Upon encountering the ground water table, pollutants traveled in the direction of ground water flow (to the west), and reached well G109.

The Pond Occupying H. H. Hall Construction's Sand Pit

The water level in this pond is 1.5 to 2.0 feet higher than the closest wells to it (G111, G105), therefore, it is assumed that the water in the pond has no hydrological connection to the ground water aquifer. Since this pit was excavated to obtain the Henry Formation sands, it at one time must have extended down to the aquifer. The only explanation for this breach then, is that the pond has silted in to the point where the water in the pond is of a perched nature. This silting action occurred in the same way as that previously described for the creek bottom. Evidence for the deposition of this silt fill in recent times occurs at the Judith Lane culvert. This culvert (with a diameter of 6 feet) was installed in the early 1950's to allow for better creek flow under the road. Subsequent sedimentation in the creek has filled to within one foot of the top of this culvert. This means that the water level in the pond fluctuates independently of the ground water aquifer.

Water Quality

Ground Water

The monitoring wells installed by the IEPA have been sampled twice during this study. The location of these wells are shown on Figure 4, and analysis results are presented in Tables 4a and 4b. In addition to these wells, four private wells (Figures 4 and 8) have been sampled to establish the background quality. Water samples were collected and preserved according to the Agency standards, however, the samples were not filtered. Analysis for the background is in